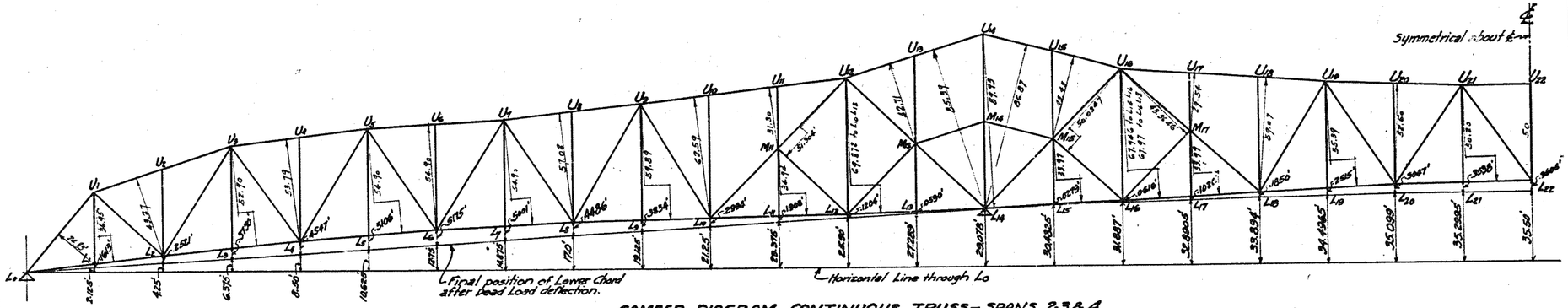
BOND ISSUE ROUTE No.	SEC.	COUNTY	TOTAL SHEETS	SHEET No.
104	123 D, E, F, P	Morgan Pike	38	8
FED. ROAD DIST. No. 3	ILLINOIS	FED. AID PROJECT	183-F	

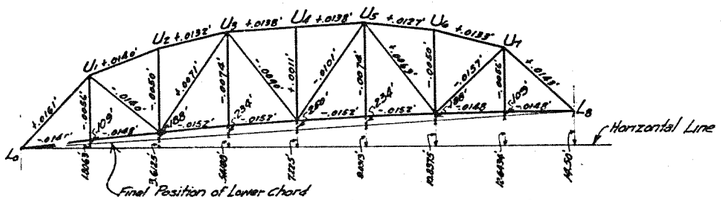
SHEET NO. 20
SHEETS 38

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



CAMBER DIAGRAM - CONTINUOUS TRUSS - SPANS 2-3 & 4

For deflection due to Dead Load, including concrete floor.
For lengthening & shortening of members, see Sheet No. 22



CAMBER DIAGRAM - 240'-10 TRUSS - SPANS 1 & 5

For deflection due to Dead Load + Full L.L. - without Impact
Compoled truss centers shall be corrected for deformations due to full dead & live loads, by the amounts shown above.

SEC. 123 D:- All reinforcing steel shall be intermediate or hard grade and deformed. If the Contractor uses structural or plain bars, he shall provide, at no expense to the State, the excess required to make the reinforcement equivalent to the above.

SEC. 123 E & F:- Tops of Floor Beams and Stringers shall not be painted where they are to come in contact with the slab.

BILL OF MATERIAL
FOR CONTINUOUS SPANS 2-3-4

	Bar	Number	Size	Length
SEC. 123-D	a_1	1737	5/8"ϕ	26'-6"
	a_2	3080	"	24'-6"
	a_3	1431	"	26'-3"
	X_1	16	3/4"ϕ	2'-6"
	a_a	36	3/4"ϕ	6'-9"
	ab	72	"	9'-0"
	a	108	1/2"ϕ	1'-9"
	b	609	1/2"□	34'-6"
	b_1	667	1/2"□	35'-6"
	b_2	504	5/8"ϕ	34'-6"
	b_3	552	5/8"ϕ	35'-6"
	Class X Concrete		-Cu.Yds	901.0
	Reinforcing Steel		-Lbs	249980.
	Cast Iron Grates & Frames		-Lbs	13650.
	Structural Steel (Carbon)*		-Lbs.	15500.
SEC. 123-F	Structural Steel (Carbon)		-Lbs	1692070.
	Structural Steel (Silicon)		-Lbs	1858630
	Cast Steel Rockers & Shoes		-Lbs.	33470.
SEC. 123-E	Structural Steel (Carbon)		-Lbs	1614570.
	Structural Steel (Silicon)		-Lbs.	1858630.
	Cast Steel Rockers & Shoes		-Lbs.	33470.

* See Sheet No. 34

SEC. 123-D:- Class X Concrete to be used throughout.
Floor slab to be poured each way simultaneously from ℄ of Span 3
Floor Slab Finish, see Specifications, sec. 45.3 (e).

SEC. 123-E:- In all cases of cantilever erection, the riveting shall precede the erection traveler by one panel.
Spans 1 & 5 designed for erection on falsework. Continuous span designed for cantilever erection as noted on Sheet No. 22. The Contractor shall submit to the Engineer, for his approval, a complete erection plan and shall compute erection stresses if he proposes to use a method other than that noted on Sh. #22. Any additional material due to erection stresses shall be at the expense of the Contractor for Sec. 123 E. Splices in panel L_{21}-L_{22} (see Sh. #30) designed for erection from both ends of continuous span toward ℄. If erected differently, Contractor may vary such details, subject to the approval of the Engineer, and in co-operation with the Contractor for Sec. 123 F.

SEC. 123-P:- Paint - Furnished by Ill. Div. of Hgs. - Two field coats of White Lead.

GENERAL NOTES

Design:- H-15 Loading + Impact. (A.A.S.H.O.-1931)
Unit Stresses: Carbon Steel - Axial Tension ------ 18000 #/□" on Net Section
" " - " Compression -- $\frac{18000}{1+\frac{L}{r}/18000}$
Silicon Steel - " Tension ----- 24000 #/□" on Net Section
" " - " Compression -- 20000-46 L/r Riveted Ends.
" " - " " --- 20000-61 L/r Pinned Ends
Shear - Pins & shop driven rivets ------- 13500 #/□"
Power driven field rivets & turned bolts -- 12000 #/□"
Bearing - Pins, steel parts in contact and
shop driven rivets. ---------- 24000 (span) - 30000 (Lower)
Power driven rivets & turned bolts - 20000 " - 24000 "
Bending on Extreme fiber - Tension or Compression
in rolled shapes & built-up sections (Carbon) $\frac{20000}{1+\frac{L}{600}(r)}$
- (Silicon) 24000 - 66 L/r
- Pins - - - 30000

SECTION 123-E

Materials: All steel marked Ⓢ to be Silicon Steel (A.S.T.M.-A94-33). All stay pls. clip ∠s, lacing bars, fillers, lateral connection plates, etc., to be Carbon Steel unless noted. All material marked Ⓒ or not marked to be Carbon Steel. Carbon Steel shall conform to A.S.T.M. Specs. A7-34.

Rivets - 7/8"ϕ unless noted and except in legs of 3" or less.

Punching & Reaming - Holes punched 15/16"ϕ except as noted & except as follows;
All main truss connections, both shop & field, shall be sub-punched 1/16"ϕ & reamed to 15/16"ϕ or drilled from the solid with members assembled. In building up main truss members, silicon material 1/2" thick or over and carbon material 3/4" or over shall be sub-punched & reamed or drilled from the solid. Holes in laterals, sway bracing, portals, lacing bars, stay plates & in building up secondary members may be punched full size.
Floor Beam connections shall be reamed to a hardened steel templet, one inch thick, or drilled from the solid.
For pitch of rivets at ends of main compression members see Specifications Art. 39.14 (3)

Assembling - Spans 1 & 5 shall be assembled complete for reaming
On Spans 2-3 & 4 (Continuous Span) at least eight panels shall be assembled at one time. The two end panels reamed in each section shall be used again as the first two panels in the next section to be assembled.

Inspection:- By Ill. Div. of Highways before painting.

Paint :- Furnished by Ill. Div. of Hgs. one shop coat of Blue Lead Paint.

STANDARD	COMPUTED	Chas. E. Mangold
	CHECKED	RAM
	DRAWN	R.E. Murphy
	CHECKED	C.E.M.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 5-27-1935
Bridge Engineer
PASSED
Engineer of Bridges
APPROVED
Chief Highway Engineer

GENERAL NOTES - CAMBER DIAGRAMS
ILLINOIS RIVER BRIDGE
MEREDOSIA, ILLINOIS
S.B.I. ROUTE 104 — SEC. 123 D-E-F-P
MORGAN-PIKE COUNTIES